

*Peer-Reviewed**Randomised Controlled Study**People*

Vitamin D supplementation may slow diabetes progression

Vitamin D supplementation may slow the progression of type 2 diabetes in newly diagnosed patients and those with prediabetes, according to a study published in the [European Journal of Endocrinology](#). The study findings suggest that high-dose supplementation of vitamin D can improve glucose metabolism to help prevent the development and progression of diabetes.

Type 2 diabetes is an increasingly prevalent disease that places a huge burden on patients and society and can lead to serious health problems including nerve damage, blindness and kidney failure. People at high risk of developing type 2 diabetes (prediabetes) can be identified by several risk factors including obesity or a family history of the disease. Although low vitamin D levels have previously been associated with an increased risk of developing type 2 diabetes, some studies have reported no improvement in metabolic function. However, these often had a low number of participants or included individuals with normal vitamin D levels at the start who were metabolically healthy, or who had long-standing type 2 diabetes. Whether vitamin D supplementation has any beneficial effect in patients with prediabetes or with newly diagnosed diabetes, especially in those who have low vitamin D levels, remains uncertain.

In this study, Dr Claudia Gagnon, and colleagues from Université Laval in Quebec, examined the effect of vitamin D supplementation on glucose metabolism in patients newly diagnosed with type 2 diabetes or identified as at high risk of developing the condition. Markers of insulin function and glucose metabolism were measured before and after six months of high-dose vitamin D supplementation (approximately 5-10 times the recommended dose). Although only 46% of study participants were determined to have low vitamin D levels at the start of the study, supplementation with vitamin D significantly improved the action of insulin in muscle tissue of participants after six months.

Dr Claudia Gagnon comments, "The reason we saw improvements in glucose metabolism following vitamin D supplementation in those at high risk of diabetes, or with newly diagnosed diabetes, while other studies failed to demonstrate an effect in people with long-standing type 2 diabetes is unclear. This could be due to the fact that improvements in metabolic function are harder to detect in those with longer-term disease or that a longer treatment time is needed to see the benefits."

Dr Gagnon suggests future studies should evaluate whether there are individual clinical or genetic factors that affect how different people respond to vitamin D supplementation and if the positive effect on metabolism is maintained in the longer term.

Dr Claudia Gagnon adds, "Type 2 diabetes and prediabetes are a growing public health concern and although our results are promising, further studies are required to confirm our findings, to identify whether some people may benefit more from this intervention, and to

evaluate the safety of high-dose vitamin D supplementation in the long term. Until then I would suggest that current vitamin D supplementation recommendations be followed.”

Notes for Editors

1. The study, “[Effects of 6-Month Vitamin D Supplementation on Insulin Sensitivity and Secretion: A Randomized, Placebo-Controlled Trial](#)” was published on 25 July 2019.
2. For copies of the paper, or any other press enquiries, please contact the European Society of Endocrinology press office:

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3. [European Journal of Endocrinology](#) (EJE) is the official clinical journal of the European Society of Endocrinology, publishing high-quality original research and review articles on all aspects of clinical and translational endocrinology from around the globe. *European Journal of Endocrinology* is published by [Bioscientifica](#).
4. At the [European Society of Endocrinology](#) (ESE), we are working together to develop and share the best knowledge in endocrine science and medicine. ESE represents a community of over 20,000 European endocrinologists, enabling us to inform policy makers on health decisions at the highest level through engagement in advocacy efforts across Europe. It is by uniting and representing every part of the endocrine community that we are placed in the best possible position to improve life for the patient.